

FEASIBILITY STUDY

Old Chapel Hill Road (SR 1009 & US 70 Business)
From SR 1192
To Eno River
Orange County
R-2825

Prepared by
Program Development Branch
Division of Highways
N. C. Department of Transportation



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Date

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I. GENERAL DESCRIPTION

This preliminary study describes proposed improvements to Old Chapel Hill Road in Orange County. The project location is shown on Figure 1. It is proposed to widen Old Chapel Hill Road from SR 1192 to the Eno River, a distance of approximately 0.9 miles. A 5-lane curb and gutter section (64 feet wide from face to face of curbs with 8 foot wide berms) is proposed between SR 1192 and NC 86, a distance of approximately 0.8 miles. Between NC 86 and the Eno River Bridge, a distance of approximately 0.1 mile, the new cross section width will transition from 52 feet at NC 86 to the existing 28 feet at the Eno River Bridge. The proposed improvements include widening the existing 28 foot wide bridge No. 240 over the Southern Railroad. The improvements can be built within the existing 100 foot wide right of way. The total cost for construction and utility adjustments is estimated to be \$ 2,300,000.

This study is the initial step in the planning and design process for this project and is not to be considered the product of exhaustive environmental or design investigations. The purpose of the study is to describe the problem, recommend a treatment including costs, and identify potential problems that may require consideration in the planning and design phases.

II. NEED FOR PROJECT

The purpose of this project is to improve the traffic carrying capacity of Old Chapel Hill Road, a major north-south route in Hillsborough. The Town of Hillsborough's request was to "Provide an alternate route to relieve the north-south traffic congestion in Hillsborough." The thoroughfare plan for Hillsborough includes both an east and west bypass. There is some local opposition to the east bypass which incorporates Elizabeth Brady Road. Whether or not the west bypass will function as an effective alternative to the Churton Street-Old Chapel Hill Road corridor has not been clearly established. The Statewide Planning Unit of the NCDOT is beginning an update of the Hillsborough Thoroughfare Plan which will address the efficacy of the west bypass as an alternative north-south route. It is recommended that an alternate route not be selected until this planning is completed.

The improvements described in this study, while not providing an alternate route, will improve the existing north-south route, and are desirable improvements regardless of which, if any, bypass is selected.

Old Chapel Hill Road is designated a Major Thoroughfare on the Hillsborough Thoroughfare Plan. It is classified a Rural Major Collector in the North Carolina Statewide Functional Classification System.

Old Chapel Hill Road, from the southern project terminal to SR 1006 is generally a 3-lane, 36 foot wide, roadway (one travel lane in each direction with center turn lane) with soil shoulders 6 feet wide. From SR 1006 to the Eno River, Old Chapel Hill Road is generally a 2-lane, 24 foot wide roadway with soil shoulders 6 feet wide. At the NC 86 intersection the approaches on Old Chapel Hill Road have been widened to provide an exclusive left turn lane. The width of existing right of way on Old Chapel Hill Road is 100 feet.

Immediately south of this project, between SR 1192 and I-40/I-85, Old Chapel Hill Road will be widened to a 5-lane curb and gutter facility under project I-305A which is now under construction. The improvements proposed in this study will tie into and be compatible with the I-305A improvements.

Development on Old Chapel Hill Road is generally light to medium density commercial development. Within the project limits there is a shopping center, a mobile home sales lot, a convenience food store, a hardware store, a craft supply store, and a Duke Power Company office. Also there are two automobile dealerships, two bank branch offices, two restaurants, and two fast food take-out stores. Immediately south of this project, between SR 1192 and I-40/I-85 there are two automobile service stations and four fast food restaurants.

The 1993 Average Daily Traffic (ADT) on Old Chapel Hill Road is estimated to be 16,000 vehicles per day (vpd) and the ADT for the year 2013 is estimated to be 32,000 vpd. Based on these traffic estimates the Level Of Service (LOS) provided by existing Old Chapel Hill Road in 1993 and 2013 are estimated to be level E and level F respectively. With the proposed improvements the 1993 (LOS) and 2013 (LOS) are estimated to be level B and level D respectively.

During the period between March 1, 1990 and February 28, 1993 there were 87 accidents reported on this section of Old Chapel Hill Road. This resulted in an accident rate of 585 accidents per 100 million vehicle miles (Acc/100MVM), compared to a statewide average of 309 Acc/100 MVM for all urban secondary routes during 1992. There were no fatalities reported during the period, however, 30 accidents resulted in non fatal injuries. The most prevalent accident types were rear-end (47%), left-turn (22%), and angle (13%). The wider cross section with curb and gutter providing more positive driveway location and identification on Old Chapel Hill Road will reduce the potential for these types of accidents.

III. RECOMMENDATIONS

It is proposed to widen Old Chapel Hill Road from SR 1192 to the Eno River, a distance of approximately 0.9 miles. A 5-lane curb and gutter section (64 feet wide from face to face of curbs with 8 foot wide berms) is proposed between SR 1192 and NC 86, a distance of approximately 0.8 miles. Between NC 86 and the Eno River Bridge, a distance of approximately 0.1 mile, the new cross section width will vary from 52 feet at NC 86 to 28 feet at the Eno River Bridge. The proposed improvements include widening the 28 foot wide bridge that spans the Southern Railroad (Bridge No. 240). The improvements can be built within the existing 100 foot wide right of way.

At the southern project terminal, the full width of widening will be carried approximately 200 feet south of SR 1192 where it will meet and tie into the 5-lane cross section being constructed under project I-305A.

Near the northern project terminal, at the NC 86 intersection, one northbound lane will be dropped; providing one northbound lane between NC 86 and the Eno River Bridge. Immediately south of the Eno River Bridge the widening will begin with tapers to a cross section 52 feet wide at NC 86. The southbound approach at NC 86 will provide an exclusive left-turn lane and two through lanes.

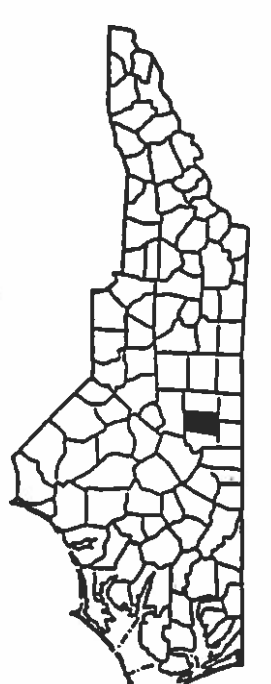
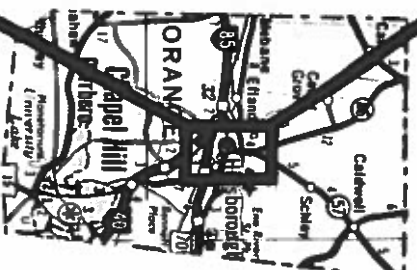
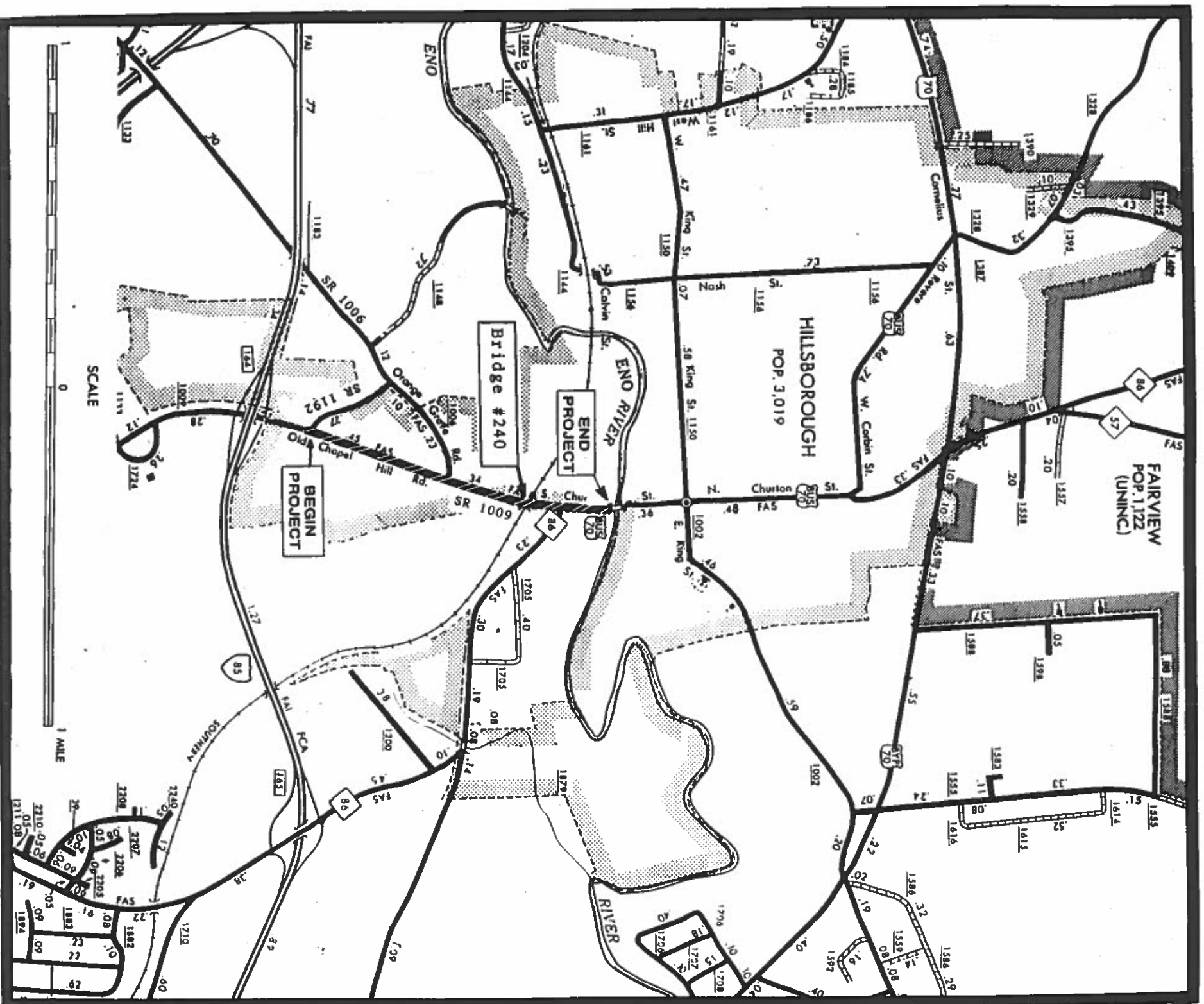
The total cost for construction and utility adjustments is estimated to be \$ 2,300,000 as follows:

Construction Cost.....	\$ 2,200,000
Right of Way Cost	
(Utility Adjustments)	100,000
Total Cost.....	\$ 2,300,000

V. OTHER COMMENTS

The NCDOT Bicycle Program has not identified this roadway as one requiring special bicycle accommodations.

No wetlands, historic properties or parks were identified during this study, however, an environmental screening was not conducted.



FEASIBILITY STUDIES UNIT

FIGURE 1. VICINITY MAP

OLD CHAPEL HILL ROAD (SR 1009 & US 70 BUS.)

FROM SR 1192

TO THE ENO RIVER

R-2825

DIV. 7

FIGURE 1

